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REMARKS**1. Claim Status**

After entering the claim amendments, claims 1, 5-8, 10-14, 19-21, 23-36, 39-40, 45, and 47-57 are pending and under consideration and claims 2-4, 9, 15-18, 22, 37-38, 41-44, and 46 are canceled.

2. Claim Amendments

Independent claims 1, 14, 36, and 40 have been amended to stipulate that the "oxygen barrier composition" or "oxygen barrier layer" comprises "a blend of an oxygen barrier polymer and an oxygen scavenging polymer" and that "the blend comprises from 1% to 30% oxygen scavenging polymer." Additionally, independent claims 1, 14, 36, and 40 have been amended to stipulate that "the oxygen barrier polymer is poly(ethylene/vinyl alcohol) (EVOH) and the oxygen scavenging polymer is MXD6." Dependent claim 5 has been amended to stipulate that "the composition has an oxygen transmission rate at least 2 times lower than that of poly(ethylene/vinyl alcohol) (EVOH)." Claims 2-4, 15-17, 37-38, 41-42, 44, and 46 have been canceled. Claims 18 and 22 were previously canceled.

New dependent claims 50-57 have been added. Claims 50, 52, 54, and 56 are dependent claims of independent claims 1, 14, 36, and 40 (respectively) stipulating that "the oxygen barrier polymer consists essentially of poly(ethylene/vinyl alcohol) (EVOH) and the oxygen scavenging polymer consists essentially of MXD6." Claims 51, 53, 55, and 57 are dependent claims of independent claims 1, 14, 36, and 40 (respectively) stipulating that "the oxygen barrier polymer consists of poly(ethylene/vinyl alcohol) (EVOH) and the oxygen scavenging polymer consists of MXD6."

The specification provides general support for an "oxygen barrier composition" or an "an oxygen barrier layer" comprising "a blend of an oxygen barrier polymer and an oxygen scavenging polymer" at page 6, lines 4-8. General support indicating that the blend comprises from 1% to 30% oxygen scavenging polymer can be found on page 11, lines 5-6, and dependent claims 37 and 41. Support indicating that the oxygen barrier polymer can be poly(ethylene/vinyl alcohol) (EVOH) can be found on page 7, lines 20-21. Support indicating that the oxygen scavenging polymer can be MXD6 can be found at page 4, lines 23-25, and independent claims 4, 17, 38, and 42. Applicants believe that no new matter has been introduced by the claim amendments made herein.

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3. Claim Rejection – 35 U.S.C. § 102(e)

The pending claims have been rejected under 35 U.S.C. § 102(e) as being anticipated by Yang et al., U.S. Patent Number 6,525,123 (“Yang”). Specifically, the Office Action dated August 12, 2005, asserts on page 3:

Yang is of course the patent which issued from 09/575,094 to which applicants claim domestic priority. However, the instant claims are drawn to compositions containing combinations of polymers or oligomers of xylylene diamine with a number of oxygen barrier polymers. Yang discloses the full scope of applicants invention except that the only xylylene diamine containing material disclosed is MXD6 polymers and the only oxygen barrier [polymer] for use in a composition with the scavengers is EVOH. Applicants filing date is therefore 9-21-00 and Yang is therefore presumed to be prior art.

Applicants respectfully disagree with the above characterization of Yang’s disclosure. However, to advance the prosecution of this application and to more distinctly claim the subject matter which the Applicants regard as their invention, independent claims 1, 14, 36, and 40 have been amended to stipulate that the “oxygen barrier polymer is poly(ethylene/vinyl alcohol) (EVOH), and the oxygen scavenging polymer is MXD6.”

Page 3 of the Office Action dated August 12, 2005, observed that Yang, to which Applicants claim domestic priority, disclosed the Applicants’ invention wherein the “xylylene diamine containing material disclosed is MXD6 polymers” and the “oxygen barrier for use in a composition with the scavengers is EVOH.” Therefore, the currently pending claims are entitled to claim domestic priority to Yang and the effective filing date of the presently pending claims is May 19, 2004. Accordingly, Yang cannot be held as 35 U.S.C. §102(e) art against the currently pending claims. Applicants respectfully request that the 35 U.S.C. §102(e) rejection of the pending claims over Yang be withdrawn.

4. Claim Rejection – 35 U.S.C. § 103(a)

The pending claims have been rejected under 35 U.S.C. §103(a) as being obviated by Cyr et al., U.S. Patent Number 6,455,620 (“Cyr”). Specifically, the Office Action dated August 12, 2005, maintains the 35 U.S.C. §103(a) rejections provided at page 3 et seq of the Office Action dated June 1, 2004, and further elaborates that “Cyr discloses that blends of preferred thermoplastics limited to ‘polyesters, polyamide, polyolefins, polycarbonates and EVOH’ wherein the polyamide is preferably MXD6” and that “[t]here is therefore ample motivation to provide a blend containing EVOH and MXD6 based on the teachings of Cyr by minimal choosing from the small number of mo[s]t preferred embodiments.”

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Applicants respectfully traverse this rejection on the basis that a *prima facie* case obviating the claims has not been made. Specifically, Cyr teaches away from the presently claimed invention. Furthermore, Cyr does not teach each and every limitation of the present claims. Additionally, Applicants assert that a *prima facie* case obviating claim 5 has not been established in relation to the cited reference because Cyr does not teach or suggest all the limitations of dependent claim 5. Arguments in relation to these bases are presented in the following sections.

a. Cyr Teaches Away From The Present Claims

In making a *prima facie* case of obviousness, a prior art reference must be considered in its entirety. A *prima facie* case of obviousness can be rebutted if the reference, in any material way, teaches away from the claimed invention. Kindly see:

1. MPEP § 2141.02 VI – “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).
2. MPEP § 1504.03 – “A *prima facie* case of obviousness can be rebutted if the applicant...can show that the art in any material respect 'taught away' from the claimed invention...A reference may be said to teach away when a person of ordinary skill, upon reading the reference...would be led in a direction divergent from the path that was taken by the applicant.” In re *Haruna*, 249 F.3d 1327, 58USPQ2d 1517 (Fed. Cir. 2001). See also MPEP § 2144.05; In re *Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

Page 3 of the Office Action dated June 1, 2004, asserts that

Cyr discloses a composition which can be formed into a packaging article which may contain a gas barrier polymer such as EVOH and an oxygen scavenger in which the scavenger and the barrier polymer may be present together or present in different layers. Note column 10 lines 50-66. Thermoplastic polymers including the ethylene vinyl alcohol referred to above may be present as blends including polyamides or the ethylene vinyl alcohol as preferred polymers at column 5 lines 11-13. The polyamides are preferably applicants' specific polyamide at the paragraph bridging columns 6 and 7.

Page 3 of the Office Action dated August 12, 2005 further asserts that “[there] is therefore ample motivation to provide a blend containing EVOH and MXD6 based on the teachings of Cyr by minimal choosing from the small number of most [sic.] preferred embodiments.” Applicants respectfully submit that the Office Action cited passages do not consider the entire teaching of Cyr and that when taken in its entirety, Cyr teaches away from the presently claimed invention.

The “first component of [Cyr’s] oxygen scavenging systems . . . is at least one polyether.” See column 3, lines 17-18. More specifically, Cyr discloses “oxygen scavenging systems comprising an

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oxidation catalyst and at least one polyether . . . [,]" and "novel compositions comprising: a poly(alkylene glycol), and oxidation catalyst and a thermoplastic polymer." See Cyr abstract, column 2, lines 36-38, column 2, and lines 49-51. Cyr clearly stipulates that the polyether (or polyether species poly(alkylene glycol)) is a required component of Cyr's oxygen scavenging system. Nowhere within Cyr is it taught, suggested, or implied that the thermoplastic polymer component (either as a single thermoplastic polymer, or a mixture of thermoplastic polymers) can be utilized in the absence of the polyether component.

Thus, even if one happened to choose a MXD6/EVOH thermoplastic polymer blend (as suggested in the previous Office Actions), the composition according to Cyr's teaching would minimally comprise a poly(alkylene glycol), a blend of MXD6 and poly(ethylene/vinyl alcohol), and an oxidation catalyst. Cyr would lead person of ordinary skill to blend the thermoplastic polymer (or thermoplastic polymer blend) with an added oxygen scavenger (e.g. a polyether compound) and away from the presently claimed invention relating to "an oxygen barrier composition" or "an oxygen barrier layer" comprising "a blend of an oxygen barrier polymer and a oxygen scavenging polymer . . . wherein the oxygen barrier polymer is poly(ethylene/vinyl alcohol) (EVOH) and the oxygen scavenging polymer is MXD6." The presently claimed invention represents a clear and surprising simplification over the teaching of Cyr as the present invention does not require the presence of a polyether oxygen scavenging component. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of the present claims over Cyr be withdrawn.

b. Cyr Does Not Teach Each And Every Limitation Of The Claims

Applicants respectfully submit that Cyr does not teach or suggest all the claim limitations as required to establish a *prima facie* case of obviousness. MPEP § 2143. Specifically, Applicants submit that Cyr does not teach or suggest the limitation that the oxygen scavenging polymer within "a blend of an oxygen barrier polymer and an oxygen scavenging polymer" is MXD6. Furthermore, Cyr does not teach or suggest the combination of three limitations of the pending independent claims.

i. Cyr Does Not Teach That The Oxygen Scavenging Polymer is MXD6

The "first component of [Cyr's] oxygen scavenging systems . . . is at least one polyether." See column 3, lines 17-18. More specifically, Cyr discloses "oxygen scavenging systems comprising an oxidation catalyst and at least one polyether . . . [,]" and "novel compositions comprising: a poly(alkylene glycol), and oxidation catalyst and a thermoplastic polymer." See Cyr abstract, column 2, lines 36-38, column 2, and lines 49-51. Therefore, it is obvious to one of ordinary skill in the art that Cyr's oxygen scavenging component is a polyether and that the polyether component is a required component of Cyr's oxygen scavenging system. In contrast, the present independent claims stipulate that the oxygen

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scavenging polymer within “a blend of an oxygen barrier polymer and an oxygen scavenging polymer” is MXD6.

MXD6 is a well-known polyamide and is not classified as a polyether. Furthermore, MXD6 is not listed within Cyr as a polyether nor does MXD6 meet Cyr’s description of a polyether. See Cyr column 3, line 17, to column 4, line 49. Cyr only provides MXD6 as one of many thermoplastic polymers which may be utilized in addition to Cyr’s oxygen scavenging polyether component. Nowhere does Cyr teach, suggest, or provide oxygen scavenging property criteria which could be applied to selecting a particular thermoplastic polymer for use in their invention. Therefore, Cyr does not teach or suggest a “oxygen barrier composition” or an “oxygen barrier layer” comprising “a blend of an oxygen barrier polymer and an oxygen scavenging polymer . . . wherein . . . the oxygen scavenger is MXD6.” Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of the present claims over Cyr be withdrawn.

ii. Cyr Does Not Teach A Combination Of Limitations

The present independent claims stipulate that the “oxygen barrier composition” or “oxygen barrier layer” comprise a “blend of an oxygen scavenging polymer and an oxygen barrier polymer . . . wherein the blend comprises from 1% to 30% oxygen scavenging polymer, the oxygen scavenging polymer is MXD6 and the oxygen barrier polymer is poly(ethylene/vinyl alcohol) (EVOH).” Page 3 of the Office Action dated August 12, 2005, asserts that “there is ample motivation to provide a blend containing EVOH and MXD6 based upon Cyr by minimally choosing from the small number of mo[s]t preferred embodiments.” Applicants respectfully traverse this statement.

First, while Cyr does provide for the possibility of using thermoplastic blends in combination with its oxygen scavenging system, Cyr provides no motivation, no polymer properties, nor any selection criteria to aid one of ordinary skill in the art in choosing a particular thermoplastic polymer blend from the 10 different two component thermoplastic polymer blends included in the statement that “[p]referred thermoplastics polymers . . . include polyesters, polyamides, polyolefins, polycarbonates and EVOH.” In particular, Cyr does not provide an oxygen scavenging property criterion for selecting a first thermoplastic polymer class, or specific thermoplastic polymer, to use in the thermoplastic polymer blend. Nor does Cyr provide an oxygen barrier property criterion for selecting a second thermoplastic polymer class, or specific thermoplastic polymer, to use in the thermoplastic polymer blend. Cyr only mentions that EVOH may be used as a gas barrier polymer in combination with the oxygen scavenging polyether species poly(alkylene glycol) to limit carbon dioxide egress in applications such as beer packaging. Cyr column 10, lines 51-56.

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Second, even if one happened to choose EVOH as the first component of a thermoplastic blend, Cyr does not provide any selection criteria, other than thermodynamic properties, to assist one of ordinary skill in the art in choosing a second thermoplastic polymer class from the preferred thermoplastic polymer classes of polyesters, polyamides, polyolefins, and polycarbonates. Furthermore, there are no criteria, other than thermoplastic properties, for selecting a specific polymer from the multitude of disclosed preferred polyester, polyolefin, and polycarbonate thermoplastic polymers. Even then, if one happened to choose the class of polyamides as the class for the second thermoplastic polymer, there are no selection criteria, other than thermoplastic properties, to provide direction to select MXD6 from any of the 19 aromatic and aliphatic polyamides listed as preferred thermoplastic polyamides.

Third, Cyr does not provide a goal for selecting two thermoplastic polymer classes (or specific thermoplastic polymers) for a thermoplastic polymer blend nor does Cyr provide any expectation of success that the selection of two thermoplastics polymers could produce an oxygen barrier composition in the absence of Cyr's required polyether component. Fourth, Cyr provides no direction in regards to the proportion of the two thermoplastic polymers within his thermoplastic polymer blend.

In summary, Cyr does not provide or suggest any criteria or goals for selecting two particular thermoplastic polymer classes (or two specific thermoplastic polymers) to form the claimed invention. Nor does Cyr provide any reasonable likelihood of success directed to blending two thermoplastic polymers to form the claimed invention.

Applicants respectfully submit that the rejection based on 35 U.S.C. § 103(a) represents either an impermissible hindsight reconstruction of the present invention or an impermissible "obvious to try" rationale. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of the present claims over Cyr be withdrawn.

c. Cyr Does Not Teach The Limitation Of Dependent Claim 5

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Cyr for the previously stated reasons. Applicants respectfully traverse this rejection on the bases of the previously presented arguments. However, Applicants further submit that Cyr does not teach or suggest each and every limitation of claim 5 as required to establish a *prima facie* case of obviousness. MPEP § 2143.

The Office Action dated August 12, 2005, asserts that "Cyr discloses that blends of preferred thermoplastics limited to 'polyesters, polyamide, polyolefins, polycarbonates and EVOH' wherein the polyamide is preferably MXD6" and that "[t]here is therefore ample motivation to provide a blend containing EVOH and MXD6 based on the teachings of Cyr by minimal choosing from the small number

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of mo[s]t preferred embodiments." In contrast, Claim 5 stipulates that a "blend of an oxygen barrier polymer and an oxygen scavenging polymer . . . has an oxygen transmission rate at least 2 times lower than that of poly(ethylene/vinyl alcohol) (EVOH) alone." As previously stated, Cyr does not teach or provide any oxygen scavenging criteria for the selection of a thermoplastic polymer (either singly or in a blend). Additionally, Applicants respectfully submit that Cyr does not teach or suggest that the addition of 1-30% of a thermoplastic polymer (MXD6 or any other disclosed within Cyr) to a second thermoplastic polymer would reduce the oxygen transmission rate of the thermoplastic polymer blend to "at least 2 times lower than that" of the second thermoplastic polymer let alone if the second thermoplastic polymer had been fortuitously selected as EVOH. Thus, Applicants respectfully submit that Cyr does not teach or suggest the claimed reduction in the oxygen transmission rate presented in Claim 5.

In addition to Cyr's failure to teach or suggest the oxygen transmission rate claimed by the Applicants, Cyr does not provide or suggest any criteria or goal for selecting two particular thermoplastic polymer classes (or two specific thermoplastic polymers) to achieve the limitation of claim 5. Nor does Cyr provide any reasonable likelihood for success directed to achieving the limitation of claim 5. Applicants respectfully submit the 35 U.S.C. § 103(a) rejection of the pending claim 5 as being obvious over Cyr represents either an impermissible hindsight reconstruction of the present invention or an impermissible "obvious to try" rationale. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claim 5 over Cyr be withdrawn.


5. Final Remarks

In conclusion, Applicants respectfully submit that all pending claims under consideration are in condition for allowance. The Examiner is invited to contact the undersigned patent attorney at (832) 813-4339 with any questions, comments or suggestions relating to the referenced patent application.

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